2019 Stakeholder Meeting

Improving the Security Authentication Features

#PSCR2019

DISCLAIMER

Certain commercial entities, equipment, or materials may be identified in this document in order to describe an experimental procedure or concept adequately.

Such identification is not intended to imply recommendation or endorsement by the National Institute of Standards and Technology, nor is it intended to imply that the entities, materials, or equipment are necessarily the best available for the purpose.

*Please note, unless mentioned in reference to a NIST Publication, all information and data presented is preliminary/in-progress and subject to change

Topic to Discuss

- Two Factor Authentication
- Innovation
- SIM Prize Challenge

Panelist

John Beltz

Moderator & PSCR Security Portfolio Lead
NIST/PSCR

Mike Bartock

Technical Project Lead
NIST/ITL

Bill Fisher

FIDO 2 Authentication Lead
NIST/NCCoE

Santosh Rajvaidya

Director of Product Management
Nok Nok Labs

Sarah Hughes

Prize Challenge Manager
NIST/PSCR

2 Factor Authentication

Enhanced Authenticators

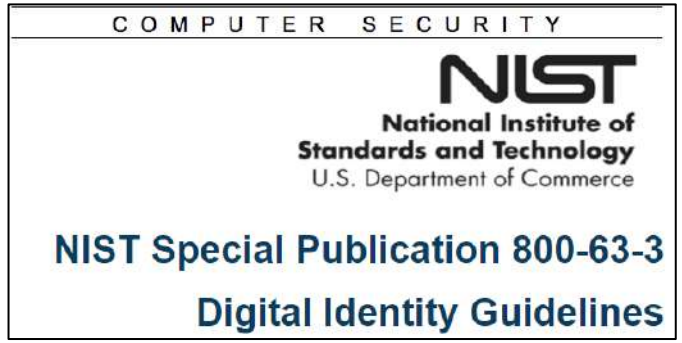

HIPAA
Health Insurance Portability
and Accountability Act


OpenID®


3GPP™
A GLOBAL INITIATIVE


SAML v2.0
Security Assertion Markup Language


IEEE


COMPUTER SECURITY
NIST
National Institute of
Standards and Technology
U.S. Department of Commerce
NIST Special Publication 800-63-3
Digital Identity Guidelines


OAUTH
2
OAUTH


fido™
ALLIANCE


IETF®

Mobile Application Single Sign-On

DRAFT

NIST SPECIAL PUBLICATION 1800-13A

Mobile Application Single Sign-On

Improving Authentication for Public Safety First Responders

Volume A:
Executive Summary

Paul Grassi
Applied Cybersecurity Division
Information Technology Laboratory

Bill Fisher
National Cybersecurity Center of Excellence
Information Technology Laboratory

Santos Jha
William Kim
Taylor McCorkill
Joseph Portner
Mark Russell
Sudhi Umarji
The MITRE Corporation
McLean, VA

April 2018

DRAFT

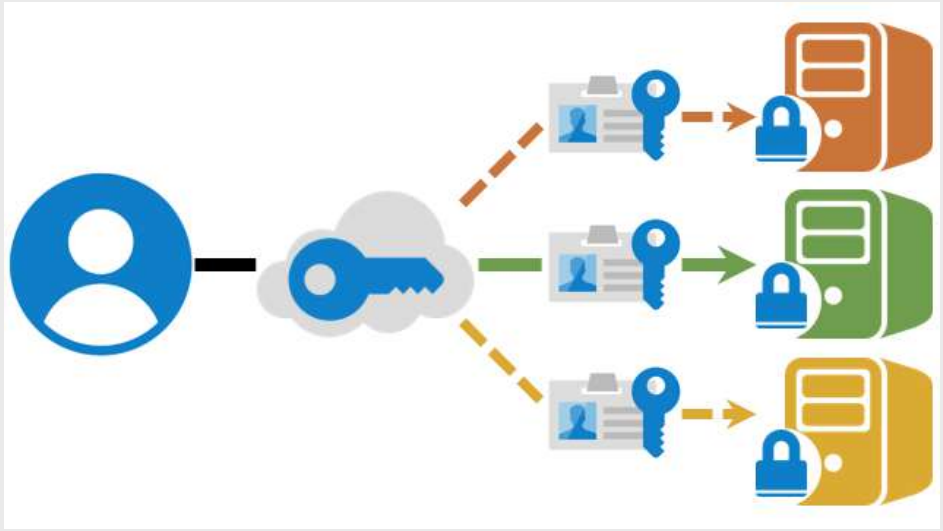
This publication is available free of charge from:
https://www.nccoe.nist.gov/projects/use-cases/mobile-sso

NIST National Institute of Standards and Technology U.S. Department of Commerce

NCCoE NATIONAL CYBERSECURITY CENTER OF EXCELLENCE

Single Sign-on (SSO) to Mobile Resources

- Authenticate once with mobile native app or web apps
- Leverage initial MFA when accessing multiple applications



p@$$w0rd

+

Private Key

Multi-Factor... There should be options

meeting the demand of diverse environments

FIDO UAF Authentication

- Leverages fingerprint registered to device
- No Password Input

Private Key

\+

FIDO U2F Authentication

- Using FIDO key as second factor
- Public key pair on the device

p1n

\+

Why hardware backed?

- "AAL3 authentication SHALL use a hardware-based authenticator" - NIST SP800-63-3
- Federal information Processing Standard (FIPs) validation – crypto graphic module certification
- Tamper resistance – attacker must get physical access

PSCR SECURITY

FirstNet™

PSCR OPEN INNOVATION

Solving the Public Safety needs of tomorrow...today

ITL

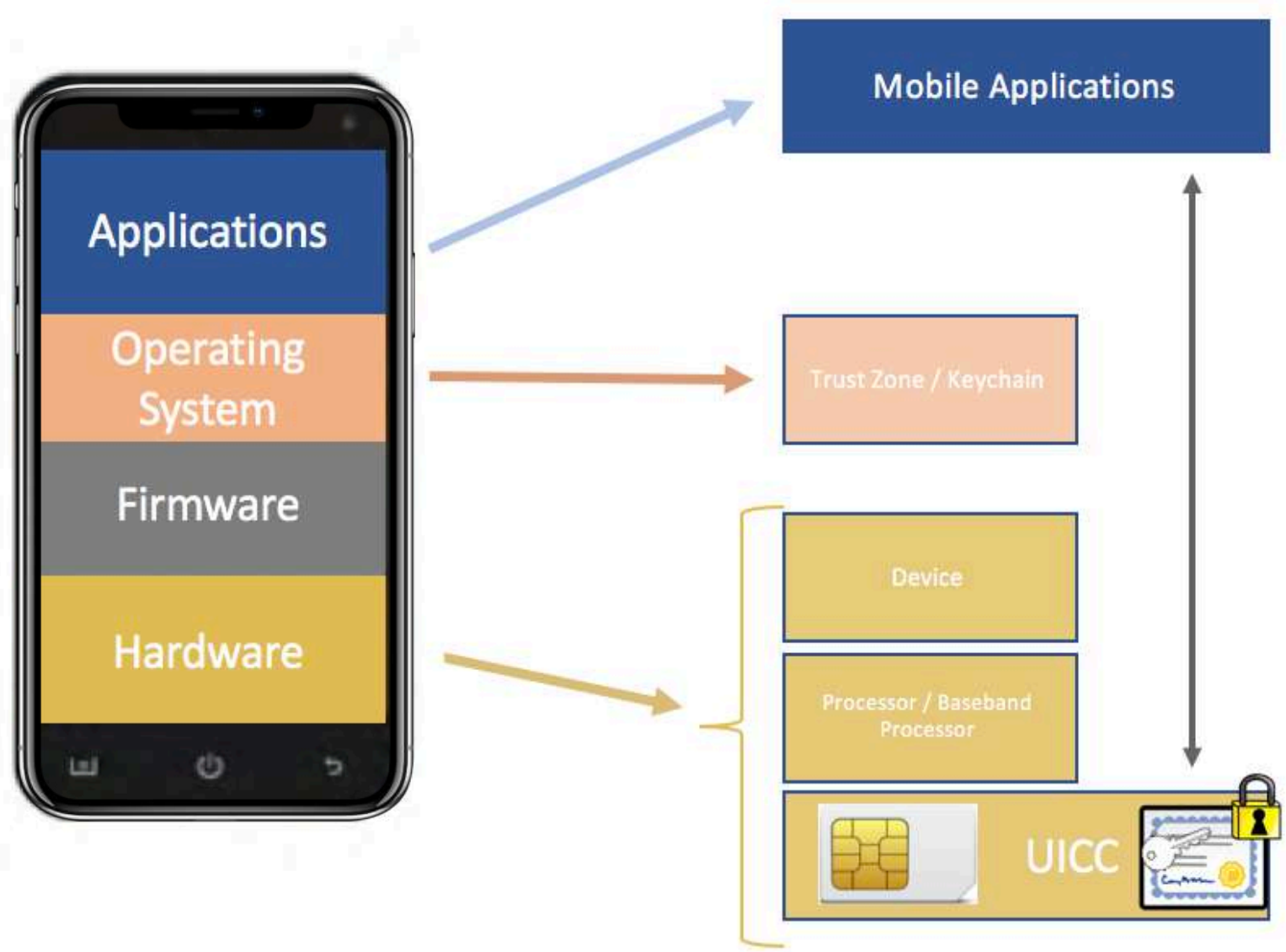
IBM

nok nok

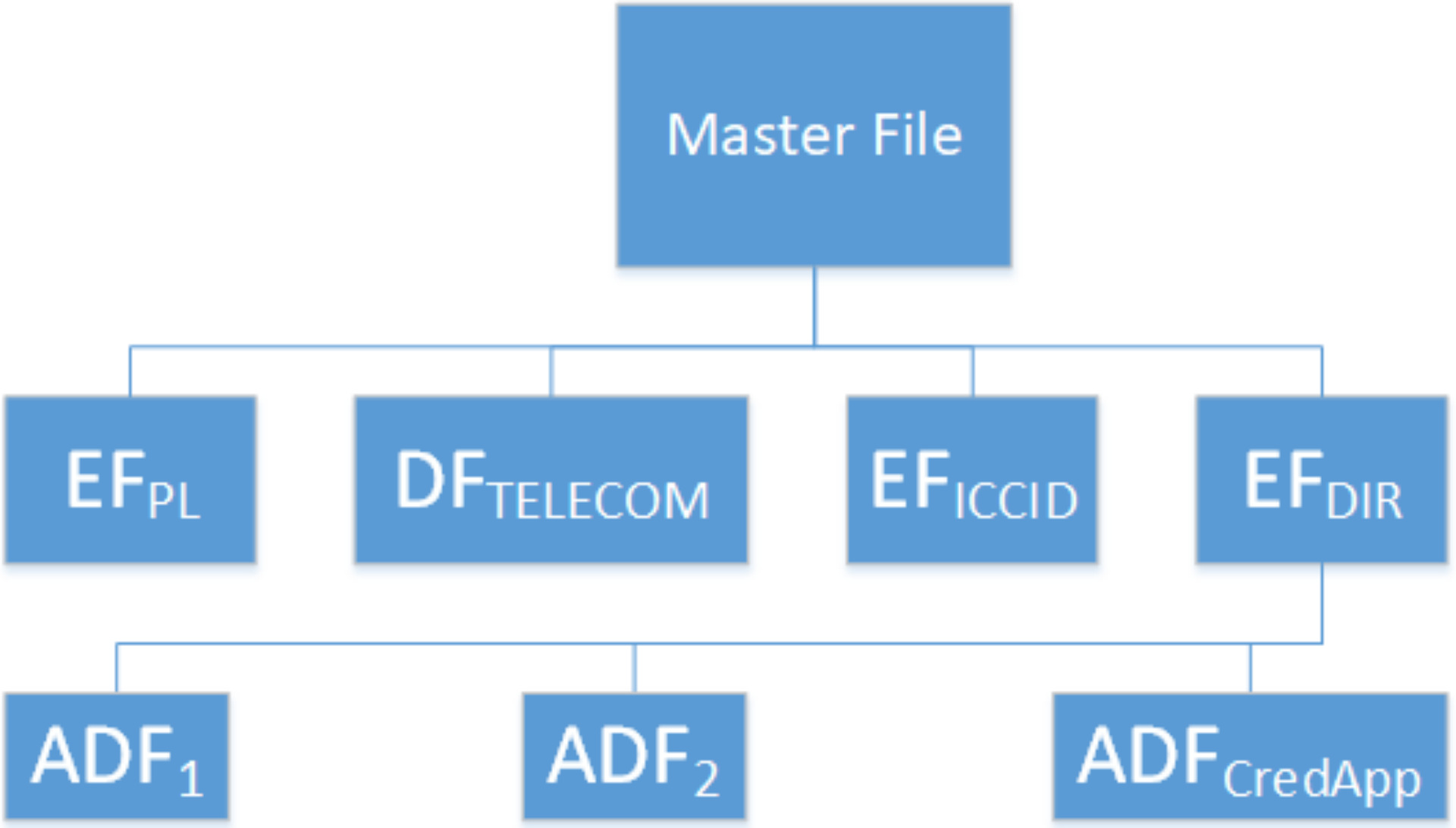
NCCoE
NATIONAL CYBERSECURITY CENTER OF EXCELLENCE

Jeff Posner: Innovation!

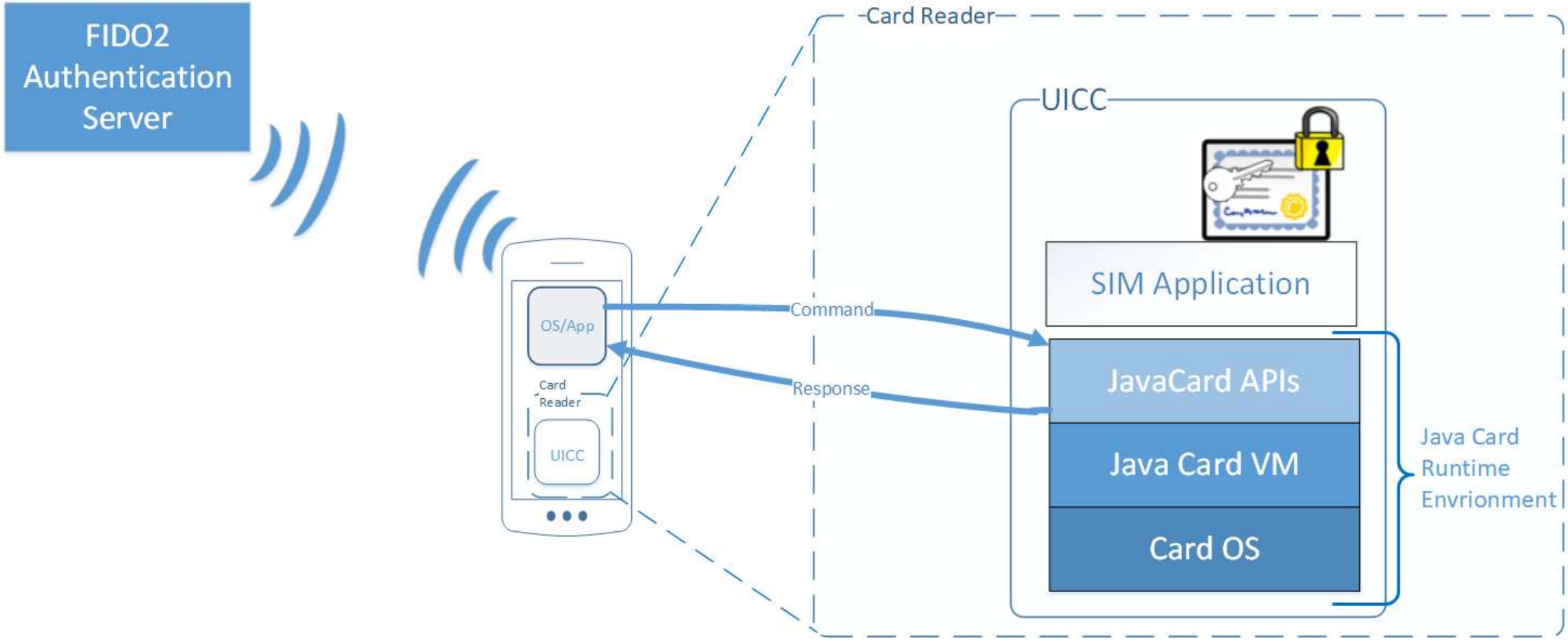
Mobile Device Architecture



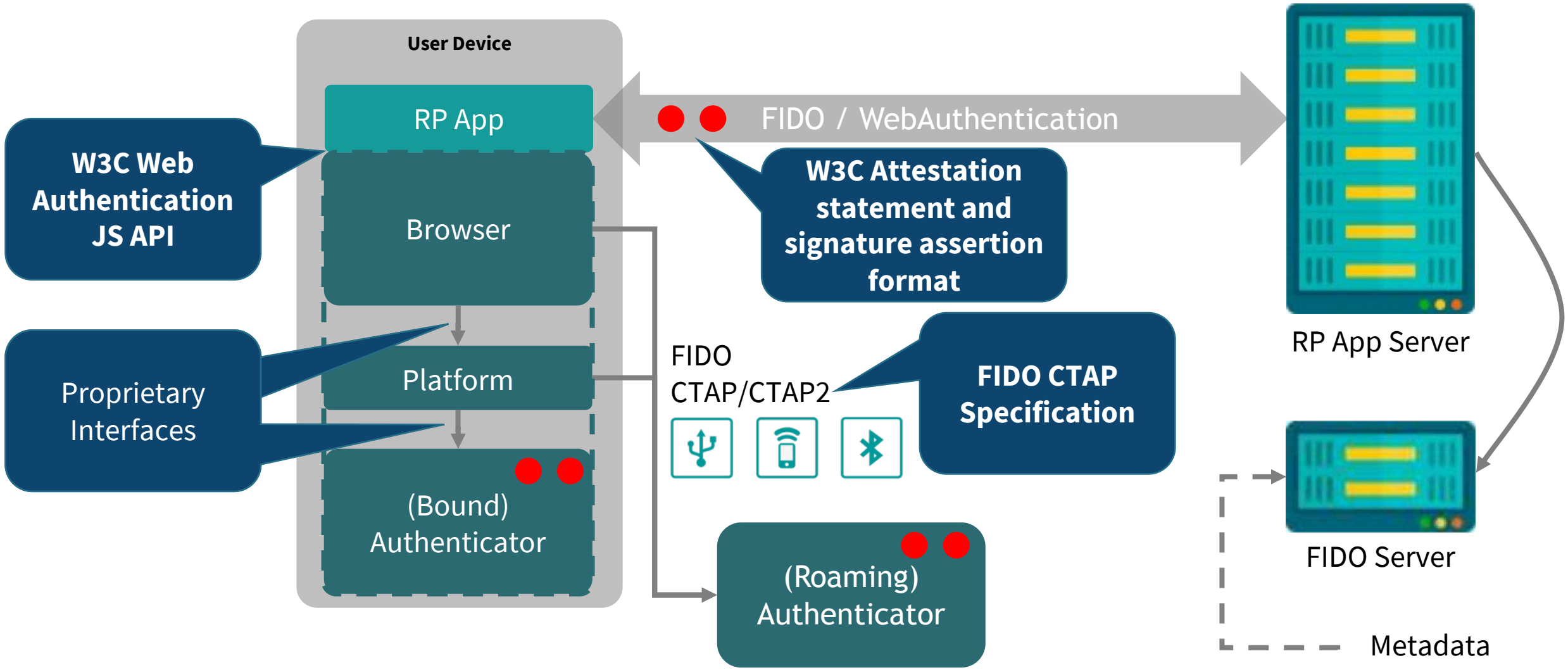
UICC File System Diagram



Leveraging Credentials Stored on the UICC



FIDO 2 Authentication



Expanding the SIM Card Use for Public Safety Challenge

Concept Paper

April 3, 2019:
Challenge Launched

May 22, 2019:
Contestants' Concept Papers Due

File Stored on SIM Card

June 4, 2019: Contestants write file to SIM Card

July 26-29, 2019: Contestants' Methodology Paper & Screen Share with Judges & Experts

Verified Authentication

August 14, 2019:
Contestants' Mobile App & Authentication

October 9, 2019:
Contestants Send Devices for Evaluation

Challenge Phases

October 23, 2019: Judging completes final evaluation and announce any winners!

PSCR SECURITY
Securing the first responder of the future

PSCR OPEN INNOVATION
Solving the Public Safety needs of tomorrow...today

Innovation Goals with this Challenge

PSCR & Challenge Partners

Public Safety

Innovators

PSCR Provides Funding & Connections

Iterative Process

Goal: More Secure, Efficient & Effective Authentication for Public Safety

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THANK YOU

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Break for

Lunch

BACK AT

1:00PM